



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/971,851	11/17/1997	LOYD R HORNBACK III	53249USA5A	4843

32692 7590 07/01/2003

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
1764	B2

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	08/971,851	HORNBACK III ET AL.
<b>Examiner</b>	<b>Art Unit</b>	
Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 14 April 2003.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 12-16,18-20,23-31,34,36-42 and 44-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 26 is/are allowed.
- 6) Claim(s) 12-16,18-20,23-25, 27-31,34,36-42 and 44-47 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)      4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) Notice of Informal Patent Application (PTO-152)  
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.      6) Other:

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because in Fig. 3B and 4B "19" should be pointed to the larger radius curvature. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 29-30, 39-41 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 29, the limitation of "no score line" is nowhere disclosed in the specification.

See claim 39 likewise.

It should be noted that any negative limitation or exclusionary proviso must have basis in the original disclosure. The mere absence of a positive recitation is not a basis for an exclusion.

Art Unit: 1764

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 29-30, 39-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 29, line 5 it is unclear as to where it is disclosed in the original specification that "no score-line is located proximate to said larger radius of curvature". See claim 39 likewise.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 12-16, 18-20, 23-25, 27-28, 34, 36-38, 42, 44-47 are rejected under 35 U.S.C. 103(a) as obvious over JP 61-89916.

With respect to claims 12-15, 24-25, 28, 34, 36, JP 61-89916 discloses a pollution control device comprising:

Art Unit: 1764

a housing 3 containing a pollution control element 2, a mounting article disposed between the housing 3 and the pollution control element 2; wherein the mounting article comprising a sheet material 1 having major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines in the top and bottom surfaces of the sheet material 1 (Fig. 1).

JP 61-89916 further discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2) depending on the size of the pollution control element.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, e.g. across the width or the length on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188) and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length of the sheet material, i.e. parallel or perpendicular to the gas flow.

With respect to claim 16, JP 61-89916 shows that the depth of the score line is within the range of 5-90% of the thickness of the sheet material 1 (pages 4-6 of the translation of JP '916 - PTO: 99-3188).

With respect to claim 19, JP 61-89916 discloses that the sheet material 1 is ceramic fiber (page 4 of the translation of JP '916 - PTO: 99-3188).

Art Unit: 1764

With respect to claims 13, 18, 24-25, 38, JP 61-89916 discloses that the sheet material has a plurality of score lines in both top and bottom surfaces (page 3 of the translation of JP '916 - PTO: 99-3188).

With respect to claim 23, JP 61-89916 discloses that the monolith has round shape (Fig. 2, page 5 of the translation of JP '916 - PTO: 99-3188).

With respect to claims 27, 37, 42, 44-47, JP 61-89916 discloses that the cross section of the score-line is U-shape (see the groove in Fig. 1), or in form of a repeating pattern, such as a wave (page 4 of the translation of JP '916 - PTO: 99-3188). JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188). Therefore, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916, absence showing any unexpected results thereof.

10. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 as applied to claims 12-16, 18-19, 23-25, 27, 34, 36-38, 42, 44-47 above and further in view of JP 2-61313.

With respect to claim 19, JP 61-89916 discloses that the sheet material comprises ceramic fiber. JP 2-61313 discloses that the sheet material comprises inorganic fiber, vermiculite, etc., e.g. intumescent material. It would have been obvious to one having ordinary skill in the art to select an appropriate material, such as intumescent material, as evidenced by JP 2-61313, in the apparatus of JP 61-89916 on the basis of its suitability for the intended use as a matter of obvious design choice, as such is conventional in the art and no cause for patentability here.

With respect to claim 20, the depth of the score line of JP 61-89916 is within the range of 5-90% of the thickness of the sheet material.

11. Claims 29-31, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 in view of Corn (5,332,609).

The same comments with respect to JP 61-89916 apply.

Corn discloses the oval shape for the pollution control element. It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the pollution control element, such as the oval shape taught by Corn, as such oval shape is conventional in the art and no cause for patentability here.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select an appropriate location for the score lines on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188), and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 41, 46, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916, absence showing any unexpected results thereof and since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

Art Unit: 1764

12. Claims 12-16, 18-20, 23-25, 27-28, 34, 36-38, 42, 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916.

JP 2-61313 discloses a pollution control device comprising:

a housing containing a pollution control element 1 and said mounting article 5 disposed between the housing and the pollution control element 1; wherein the mounting article 5 comprising a sheet material 5 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines 11 in the top and bottom surfaces of the sheet material 5 and across the width of the sheet material 5. With respect to claims 19-20, JP 2-61313 discloses that the sheet material is vermiculite, e.g. intumescent.

The same comments with respect to JP 61-89916 apply.

It would have been obvious to one having ordinary skill in the art to select an appropriate length and orientation for the score lines, such as extending the entire length or width in the apparatus of JP 2-61313 as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines thereof on the basis of its suitability for the intended use as a matter of obvious design choice.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, e.g. across the entire width or length on both surfaces of the sheet material on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length, i.e. parallel or perpendicular to the gas flow.

Art Unit: 1764

It would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice as evidenced by JP 61-89916, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice in the apparatus of JP 2-61313 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

13. Claims 29-31, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916 and Corn (5,332,609).

The same comments with respect to the JP references and Corn apply.

***Allowable Subject Matter***

14. Claim 26 is allowed.

***Response to Arguments***

15. Applicant's arguments filed 4/14/03 have been fully considered but they are not persuasive.

Applicant alleges that a proposed drawing is attached with the amendment. However, no drawing is found.

Applicant argues the negative limitation of "no score line" is supported by the drawings, Figs. 3B, 4B, 5B. Such contention is not persuasive as it has been held that any negative limitation or exclusionary proviso must have basis in the original disclosure. The mere absence

of a positive recitation is not a basis for an exclusion. Although Figs. 3B, 4B, 5B positively show score lines proximate to the smaller radius of curvature, they do not exclude any score lines at the larger radius of curvature.

Applicant argues that the JP 61-89916 does not disclose the use of the score lines extending in the width of the sheet material to relieve surface tension in the sheet material. Such contention is not persuasive as although JP 61-89916 only shows the score lines extending in the length of the sheet material in Fig. 1, JP 61-89916 further discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188).

It should be noted that it has been held that a disclosure in a reference is not limited to its specific illustrative examples, but must be considered as a whole to ascertain what would be realistically suggested thereby to one ordinary skill in the art. *In re Uhlig*, 54 CCPA 1300 376 F2d 320; 153 USPQ 460.

Applicant argues that if the grooves in the JP 61-89916 reference were positioned in the direction of gas flow through the device, then the exhaust gas may flow through the spacing between the housing and the sheet material. Such contention is not persuasive as JP 61-89916 discloses that when an excessive compressed force is applied after placing the mat in the gap between the catalyst and casing, part of the ridges 1b moves to the grooves 1a to improve sealing performance of the seal mat (page 3 of the translation of JP '916 - PTO: 99-3188).

Applicant argues with respect to Corn is noted. However, Corn is relied upon for teaching the oval shape of the catalyst.

***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Calderola can be reached on 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

Application/Control Number: 08/971,851

Page 11

Art Unit: 1764

HT

June 30, 2003

*Hien Tran*

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**